Manitoba

# FIVE YEAR REPORT TO THE LEGISLATURE ON FISHERIES

## YEAR ENDING MARCH 31, 1989

Manitoba
Natural
Resources

90-04935/

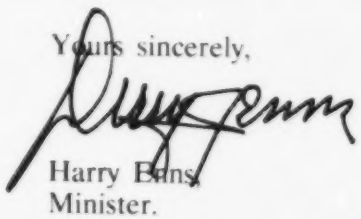
To His Honour
The Honourable George Johnson
Lieutenant Governor of Manitoba

Your Honour:

I am pleased to present the second Five Year Report to the Legislature on Fisheries.

This report reviews the status of the fisheries resources in the Province for the period of April 1, 1984 to March 31, 1989 and forecasts trends that are to be expected over the next five or so years.

Yours sincerely,



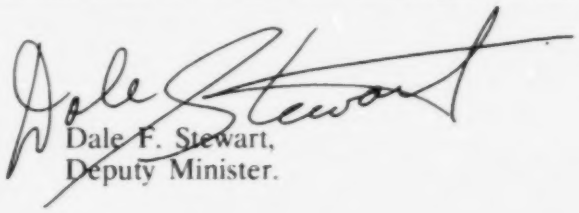
Harry Enns
Minister.

To the Honourable Harry Enns,
Minister,
Department of Natural Resources.

Sir:

I am pleased to present the five year report to the Legislature on Fisheries for the year ending March 31, 1989.

The report contains a review of the status of fisheries, an assessment of fisheries management programs and an examination of trends and challenges for the 1990's.



Dale F. Stewart,
Deputy Minister.

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# EXECUTIVE SUMMARY

This report reviews the status and management of Manitoba's fish resources over the past five years (1984-85 to 1988-89) with emphasis given to specific actions taken and challenges to be faced in maintaining and improving Provincial fisheries.

**Actions**

Since 1984, Fisheries Branch has carried out a wide range of activities designed to sustain and enhance fish resources and to serve the people who fish for recreation, food, or profit. A number of these actions are highlighted below.

**Fishery Enhancement:** Aeration systems were installed in 12 lakes and reservoirs, mostly in southern Manitoba, to reduce fish winterkills. These aerated lakes are expected to generate 100,000 additional hours of angling recreation. Removing undesirable fish from lakes in the Duck Mountains through chemical reclamation, and introducing trout, walleye and smallmouth bass to Manitoba lakes have also provided more angling opportunities for sport fishermen.

**Spawning habitat** was improved by creating pools, riffles, and rapids in channelized streams, by providing hiding places for fry, and by flushing sediments from areas that had become silted over.

**Assessment and monitoring** programs have been carried out to document the effects of hydroelectric development on fisheries in the Churchill and Nelson River systems, and to identify measures to prevent or mitigate adverse impacts.

**Fish Stocking**: Since 1984, Fisheries Branch has stocked about 415 million fish. Some 310 million of these were stocked to improve commercial fishing.

**Conservation licences** that encourage anglers to release valuable species such as pike and walleye were instituted for both resident and non-resident fishermen; recent licence figures show 45% of anglers prefer these new licences.

The Branch encouraged the **resource user** to participate in fishery management programs and decisions. Groups that are playing an active role in resource management include: Swan Valley Sport Fishing Enhancement, Inc.; Fish Futures Inc.; The Red River Advisory Committee; Kississing Lake Management Committee; and various game and fish clubs, chambers of commerce, businesses, and cottage associations.

The province has adopted **regulations to conserve fish** resources by means of (a) barbless hooks; (b) designation of high quality management lakes with reduced limits for valuable fish; (c) maximum-size limits and slot limits to protect specific age classes from overharvest; and (d) catch-release programs in northern lakes where natural productivity is low.

Fisheries Branch took steps to **rehabilitate** the declining Lake Winnipegosis walleye fishery by closing the open water season (1986-88), supporting an employment assistance program for commercial fishermen, purchasing quotas to reduce future harvest, and restocking walleye.

A **transferable individual quota system** was established for Lake Winnipeg's commercial fishery. By allowing fishermen to sell or transfer quotas, this new program has improved the financial performance of the fishery by reducing the number of commercial operators (from 754 to 724), thereby discouraging overharvest.

Under **Article 19.4 of the Northern Flood Agreement**, Fisheries Branch, Manitoba Hydro, Manitoba Northern Affairs, and the Northern Flood Committee negotiated settlement claims with commercial fishermen at Norway House, Nelson House, and Split Lake for damages associated with hydroelectric development.

**Three-inch-mesh net fisheries** were opened on Lake Winnipegosis and Lake Manitoba to promote perch and sauger harvest, while protecting declining walleye stocks. Fishermen on these lakes netted over $2 million in revenues during recent seasons through these special small-mesh fisheries.

The Branch took steps to **rehabilitate Dauphin Lake's commercial fishery** by reducing walleye quotas and promoting northern pike harvest through an extended winter season and use of trap nets.

The Branch's ongoing **public information** process keeps fishermen and the general public abreast of new fishing opportunities and management programs, while encouraging anglers and commercial operators to conserve fish resources.

New policy and procedural directives were established in 1985 to clarify the **fishing rights of Treaty Indians**.

**Challenges**

The main challenges for the 1990's are to develop programs to maintain fisheries harvest potential through habitat enhancement and fish restocking; to improve the quality of sport fishing through licensing and resource conservation measures; and to strengthen commercial fishing operations as a sustainable, profitable resource industry. Specific goals and challenges for Manitoba's fisheries are summarized below:

The Branch will continue to **study the effects of hydroelectric development** on fish populations and resource users, and to seek measures designed to prevent, mitigate and rehabilitate affected fisheries.

The **implications of expanded road networks** on fisheries that are largely inaccessible will be addressed as remote areas are opened for development.

Manitoba's role will be clarified with respect to administrative and regulatory responsibilities, habitat management, research and development, and fish inspection programs through development of **Canada-Manitoba Fisheries agreements.**

Strategies will be developed with Travel Manitoba and the industry to ensure the **lodge industry** remains profitable. Fisheries Branch will also encourage northern communities to become more involved in lodge operations.

The Branch will continue to develop policies and procedures for **allocating fishery resources** to reduce conflicts among resource users.

The Branch will continue its efforts in **public information** to inform the public about environmental conservation and management issues.

Fisheries Branch will review its **border-water agreement** with Ontario and will work towards a similar agreement with Saskatchewan.

The Branch will continue to **work with commercial fishermen** to strengthen Lake Manitoba, Lake Winnipeg, Lake Winnipegosis, and other fisheries by adjusting quota systems, increasing fish stocks, clarifying fishing rights, and promoting resource conservation.

Band Councils will be encouraged to play a more active role in administering **domestic fishing** by Treaty Indians. The Branch will also work with Bands to develop better ways to estimate harvest so that domestic harvest can be managed more effectively.

# 1.0 INTRODUCTION

Manitoba's fisheries bring more than $ 150 million into the provincial economy each year. Sport fishing provides one in every four Manitobans with a valuable recreational experience, while commercial fishing is an important source of income for many communities. For about 3,600 Manitobans, particularly those living in remote communities, fishing is more than an occupation - it's a way of life. The province's fisheries also support growing lodge and live bait industries.

The Manitoba Fisheries Act states that the minister responsible for fisheries must provide a five-year report to the Legislature on the status of the fisheries resource. The following report fulfils this requirement for the fiscal years 1984-85 to 1988-89. The purpose of the report is to:

- review the status of Manitoba's fisheries;
- identify the factors and issues that affect the resources;
- review fisheries management programs and activities and assess their effectiveness; and
- propose and examine management strategies and activities that will be carried out in the 1990's.

The report contains five major sections addressing Resource Supply, Sport Fishing, Commercial Fishing, Domestic Fishing and Bait Fishing and Trout Farming. Each section outlines the objectives to be accomplished; describes resource status and trends; identifies issues that have arisen in the past five years; and presents management actions that have been initiated to address these issues.

Each section ends with "challenges for the 1990's" - a road map, of sorts that Fisheries Branch will follow to achieve the specific management goals and objectives it has set for the future.

# 2.0 RESOURCE SUPPLY

## Introduction and Objectives

This section examines the potential for fish harvest in Manitoba. In the most general sense, harvest potential is determined by the amount and type of fish habitat available, or, more specifically, by the number, size, depth and chemistry of the province's lakes and rivers. Changes in habitat quality have altered the harvest potential of some Manitoba waters; in practice, however, harvest potential has depended on the extent to which lakes and rivers have been fished. Consequently, Fisheries Branch has spent much of its time and effort on programs designed to control harvest.

This chapter focuses on the amount of habitat available and the implications of habitat change. Control of resource harvest is discussed in succeeding chapters.

Objectives associated with maintenance of fishery resources, including fish habitat, are:

*to minimize loss and degradation of fish habitat, and to improve habitat that has been degraded; and*

*offset resource losses from habitat loss and degradation through enhancement programs.*

## Status

## Habitat

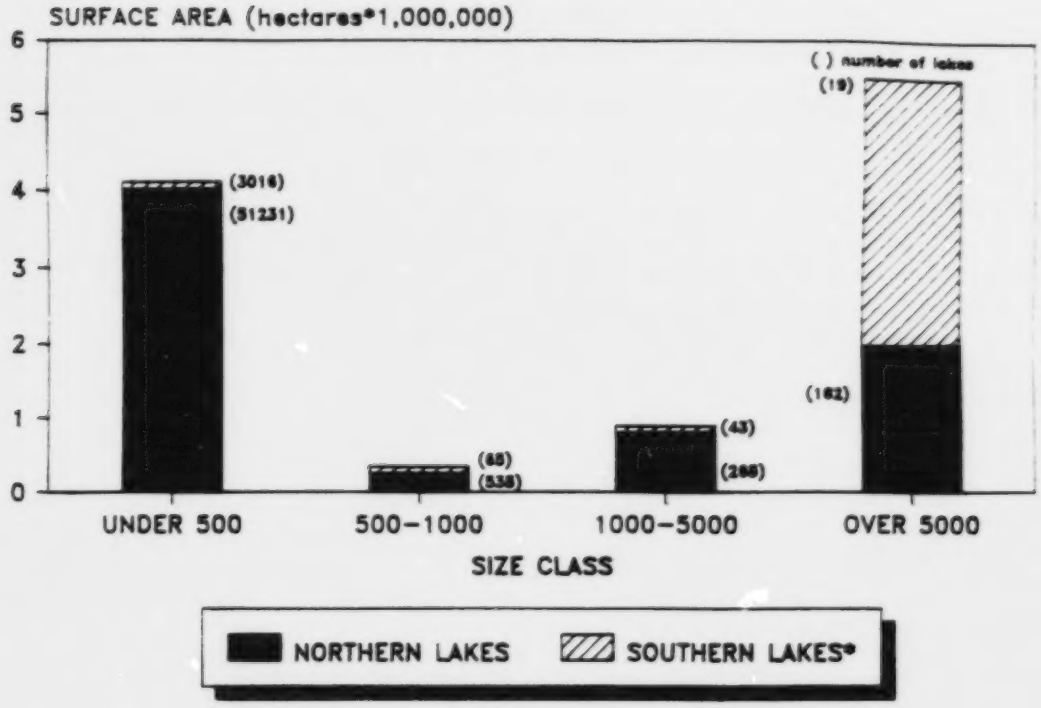
As noted in the last five-year report, Manitoba's lakes cover about 112,000 $km^2$, or 17 percent of the province. Lake Winnipeg, Manitoba, and Winnipegosis account for a third of this (33,500 $km^2$), but most of the water lies in relatively small lakes (of less than 500 hectares) in the north half of the province.

While rivers, streams, and marshes do not occupy large areas, they too provide important fish habitat. Three of Canada's largest rivers - the Nelson, Churchill, and Hayes - flow through Manitoba. The Nelson River is the second largest in Canada in area drained, and fifth largest in mean annual discharge.

## Harvest Potential

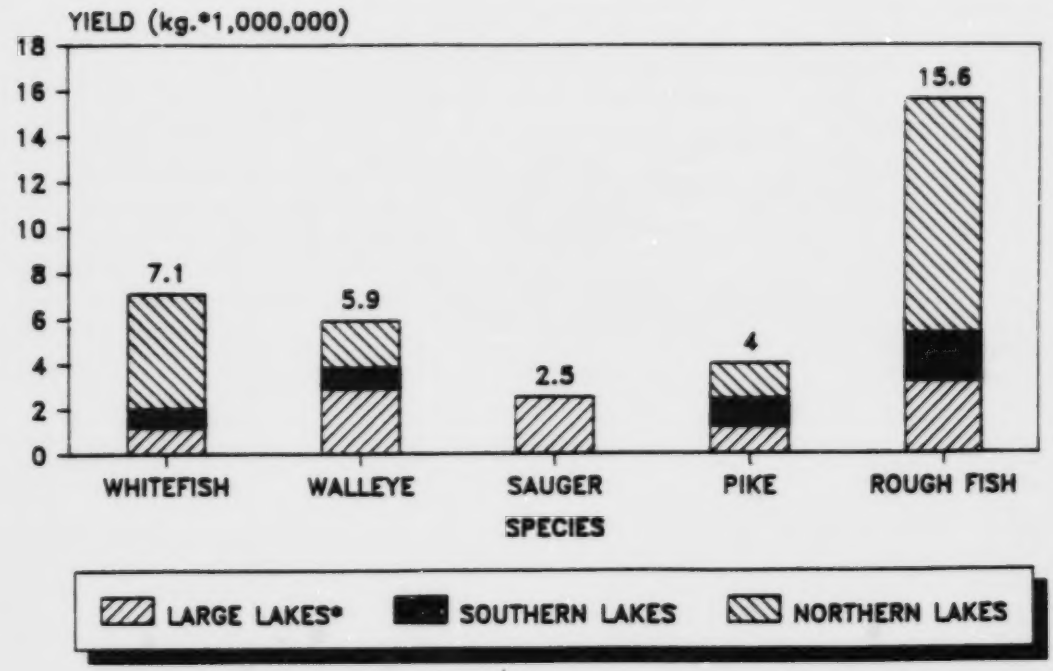
Harvest potential, which is calculated from catch statistics and habitat data, represents the number of fish that can be taken from a lake or region without decreasing fish productivity or depleting fish stocks. Manitoba's harvest potential for prime species (those managed by catch limits or quotas such as whitefish and walleye) is about 20 million kilograms. The potential for coarse fish (less valuable species) is about 16 million kilograms.

## SURFACE AREA OF MANITOBAN LAKES




*Includes L.Winnipeg, L.Manitoba and L.Winnipegosis – total 3.34 million ha.

## ESTIMATED BIOLOGICAL POTENTIAL OF MANITOBAN LAKES




*Includes Lake Winnipeg, Winnipegosis, and Manitoba

Harvest potential is not the same as actual harvest, which depends as much on social and economic factors as on fish habitat and biology. Actual harvest will vary with changes in fish prices, operating costs, market demands, social pressures, and number of fishermen, to name some of the more prominent factors. When demand and prices are high and costs low, harvest can reach or exceed harvest potential; when prices are low and costs high, the catch will likely fall short of harvest capacity.

It is difficult, at present, to know where actual harvest is in relation to potential harvest. Accurate harvest records are kept only for commercial fishing; harvest of sport and domestic fisheries is not exhaustively documented. What information we do have suggests there is no large surplus of preferred fish species in waters that are presently fished. While there are still lakes in Manitoba that have an untapped supply of fish, most are small northern lakes that are probably incapable of supporting sustained harvest. One of the goals of Fisheries Branch is to manage fish resources to ensure that supplies of fish are able to satisfy harvest demand on a sustainable basis.

Sections that follow discuss factors that limit harvest potential, review actions that have been taken to enhance resource supply, and outline future development for Manitoba's major fisheries.

## ISSUES AND ACTIONS

Harvest potential in many respects provides a theoretical estimate of supply, based on "typical" or even "ideal" lake conditions. But in real lakes, fish have to live with a wide assortment of conditions that limit how long they survive and how successfully they reproduce. Many habitat conditions and issues that affect potential and actual harvest have been dealt with through management actions carried out by Fisheries Branch.

**ISSUE**

*In many lakes in southern Manitoba, lack of oxygen in winter kills fish. As a result, these lakes are never able to produce fish in numbers that approach full harvest potential. Nutrients (nitrogen and phosphorus compounds) from chemical fertilizers, sewage, and feedlots can increase the chance of winterkill by stimulating growth and decay of plants that further deplete the supply of oxygen.*

**ACTION: Aeration Programs and Water Level Controls.**

*1. Lake Aeration:* Aeration systems that raise oxygen levels in water have been installed in some 12 lakes and reservoirs (most of them in southwestern Manitoba) to reduce fish winterkills.

*2. Water Level Control:* Structures that regulate water levels have been installed to prevent winterkill and reduce the chance that desirable fish will emigrate from fished lakes. Control structures also prevent undesirable fish from entering lakes.

**ISSUE**

*Land clearing, ditching, and drainage associated with agricultural development have destroyed or damaged spawning habitat in Agro-Manitoba and generally increased fish losses during all life stages, from egg to adult.*

**ACTION: Habitat Improvement.**

*1. Improved Spawning and Rearing Habitat* by (a) creating pools and riffles in channelized streams; (b) adding boulders, logs, and brush to create hiding places for fry; (c) flushing fine sediments from spawning and nursery areas that have been silted over; and (d) placing fieldstone in channelized rivers to improve spawning habitat by creating rapids.

*2. Multiple Resource-Use Projects.* Watershed management programs incorporate fish habitat protection and development measures into regional resource and land use plans. Examples include more "natural" designs for agricultural drains, and stream-bank stabilization where streams used for recreational fishing flow through farmed lands.

**ISSUE**

*Dams and control structures can change water conditions in upstream and downstream reaches and obstruct spawning and migration runs; flooded areas are also subject to damage from sedimentation. Stream crossings for roads can interfere with fish movements to upstream feeding and spawning areas.*

***ACTION: Maintain Fish Passage***

*1. Keep Streams Open for Fish Passage* by modifying the design of stock-watering dams and stream crossings, and by removing obstacles in stream beds that interfere with fish movements.

*2. Fishways* are expensive structures that allow fish to bypass barriers such as dams that cannot be removed. Fishways consist of baffles that reduce the speed of flowing water.They create compartments where fish can rest as they climb the fishway's steps to spawning grounds above dams and waterfalls. One fishway has been installed on the Fairford River; another, on the Red River, has been put back into operation after years of disuse.

*3. Monitoring Programs* carried out by the Branch were used to evaluate the effectiveness of the Fairford River Fishway and the system of rapids and pools created in the Mink River to improve walleye spawning habitat. Monitoring also led to an improved water management plan for the Saskeram Marsh Fishway.

**ISSUE**

*As a result of hydroelectric development on the Churchill and Lower Nelson rivers, fish composition will likely shift more to sport fish, although total numbers of sport fish may not increase (and could decrease) because of habitat alteration. Heritage species such as native brook trout and sturgeon will be adversely affected. Although some brook trout populations will survive, others will be eliminated. Reservoirs are expected to support remnant sturgeon populations, at least one of which may continue to propagate and survive. The rest will contain too few fish to successfully reproduce.*

**ACTION: Fishery Assessment and Monitoring.**

Studies of fisheries along the Churchill and Nelson River, systems have been carried out to more clearly define the problems associated with hydroelectric development. Along with ongoing stock assessment of major fisheries, special studies helped identify measures to prevent, mitigate, and rehabilitate environmental and biological impacts. Fisheries Branch is also monitoring of heritage sturgeon and brook trout in the Nelson River.

**ISSUE**

*Fish stocking programs run by the provincial fish hatchery service are designed to: (a) establish desirable fish species in a lake or stream where it previously did not exist; (b) maintain fish numbers where natural reproduction is low or absent; (c) supplement declining or over-harvested populations in hopes they will recover and grow; (d) and diversify fishing opportunities in areas where demand exceeds supply.*

**ACTION: Fish Stocking:** Since 1984, Fisheries Branch has stocked some 415 million fish representing 16 species. About 75% of the effort was used to help commercial fisheries. Lake Winnipegosis, for example, was the focus of an intensive walleye re-stocking program designed to rehabilitate that lake's troubled commercial fishery. The Branch also stocked about 150 sport fishing waters.

Table. Numbers and species of fish stocked in Manitoba waters, 1984 to 1989.

| Species | 1984/85 | 1985/86 | 1986/87 | 1987/88 | 1988/89 | TOTAL |
|---|---|---|---|---|---|---|
| Walleye | 38,575,000 | 51,800,000 | 87,800,000 | 100,300,000 | 44,300,000 | 322,775,000 |
| Northern Pike | 2,670 | 202,330 | 400,000 | 4,448 | 4,493 | 613,941 |
| Rainbow Trout | 113,000 | 154,850 | 68,000 | 93,385 | 282,906 | 712,141 |
| Other Trout & Char | 361,678 | 1,231,390 | 611,000 | 525,,060 | 604,495 | 3,333,584 |
| Whitefish | — | — | 87,000,000 | — | — | 87,000,000 |
| Other fish* | 205,564 | 172,000 | 107,034 | 403,895 | 177 | 888,670 |
| | 39,257,912 | 53,560,570 | 175,986,034 | 101,326,788 | 45,192,071 | 415,323,375 |

* Muskellunge, perch, smallmouth and largemouth bass, black crappie, and channel catfish.

**ISSUE**

*Pollution from heavy metals (mercury released from soils flooded behind reservoirs; heavy metals discharged from mines and smelters); lake acidification from acid mine drainage; and pesticides is toxic to fish and to the people and animals that eat them. Mercury contamination is a key concern in Manitoba, because it affects 29 sport fishing waters. The amount of mercury in fish tends to increase with the area of land flooded; contamination may persist for several decades before levels decline.*

**ACTION: Pollution Guidelines and Restrictions**
Although contamination does not appear to be severe, Fisheries Branch has published and distributed guidelines on public consumption of mercury-contaminated fish, and generally has kept the public informed about safe levels of consumption.

Commercial marketing restrictions on fish caught in lakes with high mercury levels in the Churchill River Diversion are in effect.

**ISSUE**

*Fisheries Branch has recognized the need to develop new policies and programs to conserve and protect fishery resources.*

**ACTION: Environmental Protection and Funding Initiatives.** The Manitoba Environment Act, which became law in 1988, helps protect fish habitat by ensuring that new developments meet requirements established in an environmental review process. Also, Fisheries Branch has developed "A Strategy for the Management of Manitoba's Fish Habitat" that addresses fisheries issues and concerns. Coordinated plans developed under the Strategy will be used to protect, rehabilitate, and enhance fish resources.

New sources of funding for fishery resources are now available through public and private groups including the Manitoba Habitat Heritage Corporation, Fish Futures, and Swan Valley Sport Fishing Enhancement Inc. Funds from these organizations along with contributions from established government and agency sources allowed Fisheries Branch to create more programs that protect and enhance fish habitat, while making people more aware of environmental issues through public information and education.

**ISSUE**

*Public information is an essential component in the Branch's overall conservation and management policy where habitat protection and enhancement programs are concerned.*

**ACTION: Public Information and Education:** Staff at Fisheries Branch give public seminars and short courses on fishery programs and issues, including those dealing with hydrology, stream rehabilitation, and fish habitat conditions and concerns.

## Challenges for the 1990's

The foregoing discussion shows that the fish resource supply, or potential harvest, represents a balance between the forces that reduce fish supply (habitat damage or loss; overharvest; disease) and the effort that must be made (through habitat management; limits and quotas; conservation programs) to ensure there are enough fish to satisfy the demand for fishing. The main challenges for the coming years are to continue to develop ways of controlling, or at least moderating, factors that limit harvest potential, while developing programs designed to improve and enhance fish habitat.

## Major Themes

*1. Mercury Levels and Contamination*

- The Branch will continue to keep the public informed about mercury contamination and safe levels of consumption.

- Commercial marketing restrictions on fish caught in lakes with high mercury levels in the Churchill River Diversion will remain in effect.

*2. Hydroelectric Development on the Lower Nelson River*

- Biomonitoring programs used to assess the effects of hydroelectric development on fisheries will continue into the 1990's.

- The Branch will continue to seek measures designed to prevent, mitigate, and rehabilitate affected fisheries.

- Reservoirs are expected to support remnant sturgeon populations, at least one of which may continue to propagate and survive. The rest will contain too few fish to successfully reproduce. Fish population and habitat changes that take place when river environments on the Lower Nelson River are replaced with reservoirs will limit the effectiveness of fish ladders to mitigate impacts.

*3. Climate and Regional Drainage*

- If warming trends and droughts experienced in recent years persist, the amount and quality of fish habitat will tend to decline, as will the spawning success of many populations. Intensive management initiatives may be needed in the future to maintain habitats vulnerable to regional climatic change.

- Drainage diversion projects such as Garrison will remain a concern because of their potential to bring non-native fish into Manitoba waters.

- Storage reservoirs, such as the Rafferty-Alameda Dam have the potential to cause fish winterkills by reducing downstream flows and therefore will continue to be addressed through the environmental assessment process.

*4. Expansion of the Road/Highway Network into Remote Regions*

Operating plans of REPAP and the Bipole transmission line will open inaccessible areas of northern and eastern Manitoba to the public, and will influence decisions on resource allocation and use.

*5. Manitoba's Role in Canadian Fisheries*

Canada-Manitoba Fisheries agreements will more clearly define Manitoba's role with respect to:

- administrative and regulatory responsibilities.
- fish habitat management
- research and development that supports conservation and increases production of fish stocks.
- aquaculture and development of fish culture.
- fish inspection
- fish health

# 3. SPORT FISHING

## Introduction and Objectives

Sport fishing in Manitoba is an important recreational and economic activity. In 1985, anglers fished 2.7 million days and caught 9.6 million fish, 55% of which were released. In the process, they spent $159 million, using almost $85 million to buy goods and services directly associated with the sport. Revenues from licences in 1989 amounted to $1.9 million-about the same amount Fisheries Branch spent on sport fish management and stocking programs.

Manitoba recognizes two categories of sport anglers: resident and commercial. About 80% of fishermen are resident anglers who live in Manitoba and other parts of Canada, and who qualify for "resident" licences. Commercial anglers are those who live outside Canada or who use commercial facilities such as sport fishing lodges.

Objectives of the sport fishing industry as a whole are:

*to ensure reasonable levels of recreational sport fishing opportunities for Manitoba residents; and*

*to realize acceptable returns from the sale of surplus resources to non-resident anglers*

For management purposes the province is divided into three areas called "sport fishing divisions". Management objectives for **Division 1**, which represents southern Manitoba and where most of the angling occurs, are to:

- maintain or increase angling opportunity for residents, and to provide high-quality angling experiences.
- maintain harvest at or above present levels.
- sustain and improve the commercial sport fishing industry.

Objectives for **Division 2**, which comprises areas of the north that can be reached by road, include:

- maintain current angling quality and diversity, while continuing to provide opportunity for trophy fishing.
- improve and enhance commercial lodge/outcamp operations and facilities.

Most fly-in commercial operations are located in **Division 3**, which is inaccessible by road. Objectives for this division are:

- sustain and improve the economic performance and quality of the remote lodge industry by maintaining high quality trophy fishing.
- encourage northern communities to play a more active role in the lodge industry.

N.W.T.
HUDSON
BAY
Division 3
Division 2
Division 1
SASKATCHEWAN
ONTARIO
LAKE
WINNIPEG
BRANDON
WINNIPEG
U.S.A.
MANITOBA
Sport
Fishing Divisions

## Status and Trends

**Angler Profile:** Licence sales rose between 1984 and 1987, then declined slightly in 1988, perhaps due to drought conditions in Manitoba. Eighty percent of non-residents interviewed in 1985 said they came to Manitoba mainly to fish. Most of the non-residents living outside Canada came from the north-central United States. Canadians living outside Manitoba came primarily from Alberta, Saskatchewan and Ontario.

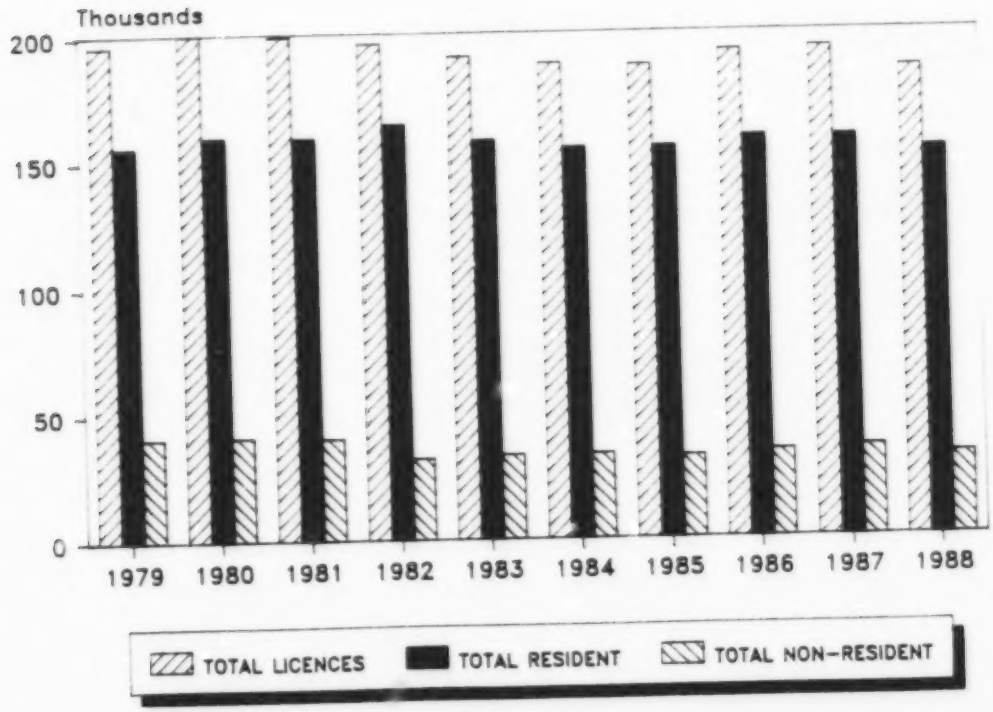
**Angler effort**, measured in angler days, has declined from 2.9 million angler days in 1980 to 2.7 million angler days in 1985. Licenced residents averaged 17.7 angler days in 1985, compared to 7.4 days for non-resident fishermen.

About 68% of the total angling effort is in Division 1, although 66% of non-residents go north to fish, primarily during May, June, and July. Only 27% of licenced residents fish in the north.

**Harvest:** Sport fishermen caught an estimated 9.6 million fish in 1985, but kept only 4.3 million fish weighing 4.4 million kilograms. Walleye accounted for 57% of the fish kept, northern pike 22%. Resident anglers accounted for 85% of the total harvest.

The percentage of the catch released rose from 48% in 1980 to 55% in 1985. This indicates that fishermen are more concerned about conserving limited fish resources than they were in the past, and are more interested in the purely recreational aspects of their sport. Non-resident anglers continue to lead the way in catch-release angling.

ANGLING LICENCE SALES



**Spending:** Of the $159 million spent by sport fishermen in 1985, $85 million was used to cover food, lodging, and transportation costs. The remainder--$74 million--was spent on major purchases such as boats, vehicles, and camping equipment. Resident anglers contributed 63% of the total, with each angler spending $400 per season, compared to $792 for non-residents.

**General Trends:** Although licence sales have remained steady, anglers are spending more money fishing and are doing more to conserve fish resources by releasing a larger proportion of the fish they catch. The number-and quality-of fish caught has also increased in recent years. Fishermen appear to be much more aware of environment problems and the "quality" of experience than they were in the past. When asked what factor contributed most to their fishing enjoyment, most said "water quality"; the next most popular choice was "natural beauty" of the surroundings.

## Commercial Sport Fishing

There are 121 lodges and 42 outfitters that cater to sport fishermen in Manitoba. The lodge industry also maintains 126 outcamps and 163 boat, motor, and fuel caches for use by anglers. Ninety-two percent of all operations are owned by Manitobans.

Lodge operators are playing a lead role in conserving fisheries resources by seeking regulations that give them greater control over methods and levels of harvest in waters allocated to them. Many have opted for no-kill trophy fisheries or for slot limits that protect the fish most valuable to them. The overall trend is to improve angling quality by reducing harvest.

## ISSUES AND ACTIONS

**ISSUE**

*Traditiona. licensing regulations help managers maintain sport fishing resources, but do little to encourage fishermen to play an active role in resource conservation. Fisheries Branch felt that new, innovative approaches to licensing would not only conserve fish resources, but would improve the quality of angling.*

**ACTION: Conservation Licences.** In 1985, Fisheries Branch replaced the Three-day Licence for non-residents with a Conservation Licence, which carries reduced creel limits for highly valued species such as walleye, sauger, northern pike, lake trout, smallmouth bass, and channel catfish, but costs only half as much as the regular season licence. Since it was adopted, about 45% of non-resident anglers voluntarily purchased the conservation licence.

In 1988, the conservation licence was extended to include resident anglers and was purchased by about 45% of resident fishermen.

Fisheries Branch in 1986 introduced special permits for fishing derbies with 25 or more contestants. These "no-cost" permits require derbies with more than 25 entrants to be registered. Derby permits allow the Branch to promote fishing methods that encourage resource conservation.

**ISSUE**

*The Manitoba Fisheries Strategy recommends that user groups become more active in managing sport fishing resources.*

**ACTION: Working With the Resource User.**

*1. Sport Fishing Organizations:* Sport fishermen become involved in fisheries management through private organizations. Founded in 1985, the Swan Valley Sport Fishing Enhancement, Inc. has raised more than $100,000 to enhance sport fishing opportunities in the Duck and Porcupine Mountains through lake reclamation, stream improvement, fish stocking, kids' seminars, and angler surveys. In addition to fund-raising, Fish Futures Inc. (a provincial non-profit organization dedicated to fisheries preservation, enhancement, and public education) has carried out angler surveys on the Red River and Lake of the Prairies in 1988 and 1989; Fish Futures also sponsored a slot limit on Lake of the Prairies in 1989. Other, similar groups have also contributed to habitat improvement, conservation education, and fisheries research and management programs.

**ISSUE continued**

*The Manitoba Fisheries Strategy recommends that user groups become more active in managing sport fishing resources.*

*2. Red River Advisory Committee:* Fisheries Branch worked with local business people, anglers, commercial fishermen, and politicians to develop fishing regulations for the Red River fishery. The Red River has long been a popular fishery that supports large channel catfish and trophy walleye, both of which have attracted anglers from the United States as well as Manitoba. In 1988, the Red River Advisory Group was created to help maintain and improve the fishery through development of a management plan and recommendations for better regulations and facilities.

*3. Kississing Lake Management Committee:* Lodge owners and local residents of Sherridon, Manitoba helped develop and implement a management plan for this fishery. The committee worked to improve camping and lodge facilities, develop new angling regulations, and deal with pollution problems associated with the old mine tailings on Camp Lake.

*4. Co-operative Projects:* game clubs, chambers of commerce, individual businesses, and cottage owners have worked with Fisheries Branch to solve fisheries management problems and improve sport fishing locally.

*5. Review of Regulations:* The views and opinions of fishermen are playing a bigger role in Fisheries Branch's annual review of sport fishing regulations. This gives the user more say in how the sport fishery is managed.

**ISSUE**

*Some parts of the province provide barely enough fish to sustain current levels of angling activity. This is particularly true in southern Manitoba, where the quality of fish habitat has declined because of drought and land use changes. Fisheries Branch is also concerned that certain lakes in Divisions 2 and 3 may not be able to supply enough fish to meet the needs of anglers if action is not taken to conserve fish resources.*

**ACTION: Regulations That Help Conserve Fish Resources.** The barbless hooks requirement was extended to all Division 3 and trout-stocked waters, Lac du Bonnet, and many reservoirs in southwestern Manitoba. Anglers will be required to use barbless hooks in all Manitoba waters by 1990. Manitoba is the first jurisdiction in North America to pass an "across- the board" barbless regulation. The province is going barbless to promote catch-release fishing and reduce fish losses caused by excessive handling.

As of 1989, 91 High Quality Management Lakes have been designated throughout the province. Lower limits set for walleye, lake trout, and pike in these lakes are designed to maintain or improve the quality of fishing by reducing overall harvest-and better fishing means better marketing opportunities for lodge operators and outfitters, and more enjoyment for resident anglers.

Maximum Size Limits established for pike, walleye and trout have been extended to catfish, smallmouth bass, and stocked trout throughout the province. Allowing anglers to keep only one fish of a specified size class helps prevent large fish from being overharvested. This gives more anglers a chance to catch more large fish.

Slot Limits were first set on selected Manitoba waters in 1987. All fish caught that fall between a specified upper and lower size limit must be released. The slot limit for pike on Kississing Lake is 75 to 105 cm (pike longer than 75 cm and shorter than 105 cm must be released). They work best in waters capable of growing trophy fish, but where heavy angling pressure would eliminate most intermediate sized fish before they could reach trophy size.

Lake of the Prairies is Manitoba's second largest sport fishery. To keep the walleye fishery there productive, the Branch has introduced a 4-fish walleye limit and will add a slot limit for all walleye between 45 and 70 cm in 1989.

In some remote, northern lakes, special catch-release programs require anglers to release all large and medium-sized fish to help increase numbers of large fish that are needed to sustain a "quality" angling experience.

**ISSUE**

*Many lakes in Manitoba offer little in the way of sport fishing because they cannot carry enough fish over winter, or because fish habitat is lacking or in poor condition.*

**ACTION: Fishery Enhancement**. Over the past five years, *aeration systems* have been installed in nine small lakes in southern Manitoba: Boissevain Reservoir, Bower Lake, Deloraine Reservoir, East Goose Lake, Elgin Reservoir, Goudney Reservoir, Mary Jane Reservoir, Russell Reservoir, and Storman Lake. These lakes and reservoirs together cover only 287 ha, but may well generate 100,000 hours of angling recreation--all of it in a part of the province where new angling opportunities are limited.

*Chemical reclamation* programs which remove non-desirable fish were carried out at Two Mile, Beaver, Verall, and Black Beaver lakes and have increased angling recreation in the Duck Mountains by 25,000 hours, a rise of 25%. Similar improvement accompanied reclamation of Bear, Tugby, Lyons, Wasp, and Thumb lakes.

*Introduction* of walleye and smallmouth bass has also generated thousands of hours of angling pleasure each year in several Manitoba Lakes.

*Habitat improvement* is another way to enhance a fishery. This was done in the Whiteshell River by establishing a modified water management regime. Other fisheries produced more fish after spawning areas were improved.

**ISSUE**

*Keeping people informed about resource management and conservation is a perennial concern.*

**ACTION: Education.** Fisheries Branch has distributed numerous pamphlets, brochures, and products-barbless lures, waterproof matches, promotional stickers, and measuring tapes-to lodge operators, derby organizers, and tackle shops to inform anglers about fishing programs and to encourage them to get involved in resource conservation and environmental protection.

## Challenges for the 1990's

During the next five years, Fisheries Branch will continue to develop programs and regulations designed to improve angling quality by:

- balancing harvest with fish supply.
- providing more angling opportunities, particularly in areas where demand greatly exceeds supply, as is the case in urban areas.
- making changes in allocation of fish resources for the benefit of all fisheries.

Such efforts are especially important in Division 1, where demand for fishing often exceeds resource supply.

In Division 2, concern about limited fish supply is growing. To improve these fisheries, and ensure that fish resources will be able to meet the needs of sport fishermen as remote areas become more accessible, programs to maintain habitat quality and prevent overharvest will have to be expanded.

The challenge in Division 3 is to expand the lodge industry without interfering with commercial and domestic fisheries. For this to happen, northern communities must work with the Branch to develop sport fisheries in ways that benefit them economically, while ensuring that fish resources are fairly and properly allocated.

Goals and challenges for specific aspects of the sport fishery are highlighted.

**Lodge Industry**

- Strategies will be developed with Travel Manitoba and the industry to ensure that the lodge industry continues to be profitable.
- The Branch will work with lodge operators and northern communities to avoid possible conflicts between sport, commercial, and domestic fisheries.
- Northern communities will be encouraged to participate directly in the lodge industry, as has happened at Big Sand Lake, Knee Lake, and Kississing Lake.

Future growth of the lodge industry will vary with region.

- **Division 1**: Without allocation changes, opportunities for expansion are small because resource supply is limited. Management objectives for this Division will be aimed at the family vacation market and will seek to maintain and enhance the existing fishery.
- **Division 2**: Existing facilities will be upgraded and expanded to ensure that lodge fisheries can continue to provide fishermen with varied and high quality angling experiences. Because the fish resource base available for industry expansion in Division 2 is relatively small, it is important that operators implement sound management and conservation practices.

- **Division 3** is where most of the new lodge operations have been built in the last five years. Expansion of American-plan lodge developments in this Division will require that some commercial net fishing be reallocated to sport fishing. As in other Divisions, expansion must go hand-in-hand with measures designed to conserve the fisheries resource and improve other business practices.

**Allocation**

- Fisheries Branch must continue to develop policies and procedures for allocating fishery resources to reduce conflicts among resource users and encourage multiple use of fisheries.

**Education and Public Involvement**

- More effort will be made to keep fishermen and the general public informed about environmental conservation and management issues that relate to sport fishing.

- The Branch will continue to encourage resource users to participate in management of the sport fishery. Their advice and support will increase the effectiveness of programs designed to improve angling.

**New and Expanded Fisheries**

- The Branch will continue to promote development of new fishing opportunities using successful techniques such as aeration, lake reclamation, and stocking.

**Border Waters**

- Manitoba shares its sport fishing resources with Ontario and Saskatchewan and has drawn up an agreement with Ontario dealing with the use of border-water resources.

- Fisheries Branch will continue to discuss border-water issues with neighboring provinces, particularly where it concerns:

  - fishing licence requirements-should they be reciprocal?

  - introduction of undesirable species

  - responsibility for resource management and enforcement

The Branch will review its border-water agreement with Ontario and intends to negotiate a similar working agreement with Saskatchewan.

# 4. COMMERCIAL FISHING

## Introduction

Commercial fishing provides income and a way of life for nearly 3,600 Manitobans. Since 1984, the annual commercial harvest has remained steady at about 13 million kilograms, but gross revenues have increased from $18.8 million to $28 million, largely because of increasing demand for fish products in both Canada and the United States.

Fishing takes place in all seasons, with each fisherman's catch governed by quotas set by Fisheries Branch. Of the 15 kinds of fish harvested, whitefish, walleye, pike, sauger, perch, and lake trout are the most highly valued species.

Commercial catches are sold through the Freshwater Fish Marketing Corporation (FFMC), which serves Manitoba, Saskatchewan, Alberta, Northwest Territories, and Northwestern Ontario.

## Objectives

The principal objective of commercial fisheries is:

> *to establish and maintain a viable commercial fishing industry wherein participants can earn a reasonable return for their investment and time with limited social disruption.*

In stating this objective, Fisheries Branch recognizes that:

- For the industry to be economically viable, individual operators must be able to earn an income comparable to that received by their counterparts in other resource-harvest industries.
- A reasonable wage provides incentive, encourages fishermen to reinvest in their business, and in the long run strengthens their commitment to fishing.
- In some communities commercial fishing is the only economic activity available.
- Many fishermen feel that maintaining the opportunity to fish is just as important as the money earned.
- For many communities, commercial fishing helps maintain and reinforce family ties and traditions, and therefore is important for social and cultural reasons.
- Fish are a public resource maintained by public funds; therefore, some of the benefits gained through management of the resource should return to the public.

## Status and Trends

The commercial fish harvest in Manitoba over the past five years has been stable, ranging from about 12.5 to just over 14 million kilograms per year, with whitefish, walleye, and northern pike accounting for about half the total catch. On average, the Manitoba fish harvest represents about 63 percent of FFMC's total supply, most of which go to U.S. markets.

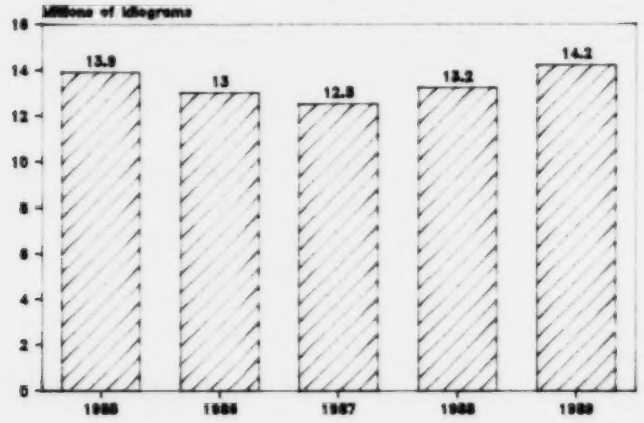
Gross revenues to fishermen have increased by 31 percent since 1984. Manitoba accounted for 70 percent of FFMC's gross revenues during that period, with walleye contributing 50 percent of the landed value. As in past years, the walleye continues to be the economic mainstay of Manitoba's commercial fishing industry.

The number of people employed as commercial fishermen has remained about the same since 1984, although the number of hired helpers has declined somewhat.

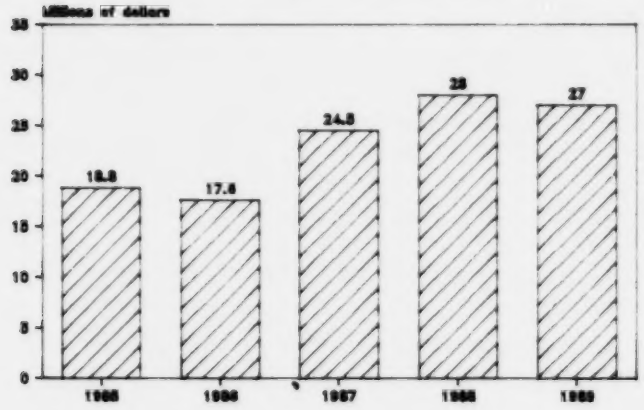
Income for individual fishermen has also increased over the past five years. The number of operators with earnings of $10,000 to $30,000 have risen 24 percent (from 635 to 834), while those earning more than $30,000 a year have more than tripled, from 55 to 193 fishermen. At the same time, today there are fewer fishermen in the under-$10,000 range than there were five years ago. This dramatic-and encouraging-shift is largely the result of higher fish prices due to strong demand for fish products in Canada and the United States.

Except for Lake Winnipegosis, which was closed to commercial fishing during the open water season from 1986 through 1988, most of Manitoba's major lake fisheries reflect trends described for the province as a whole, as the graphs on the following pages show.

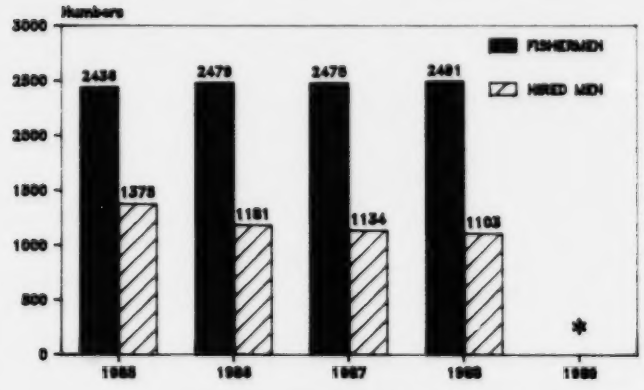
TOTAL COMMERCIAL HARVEST IN MANITOBA



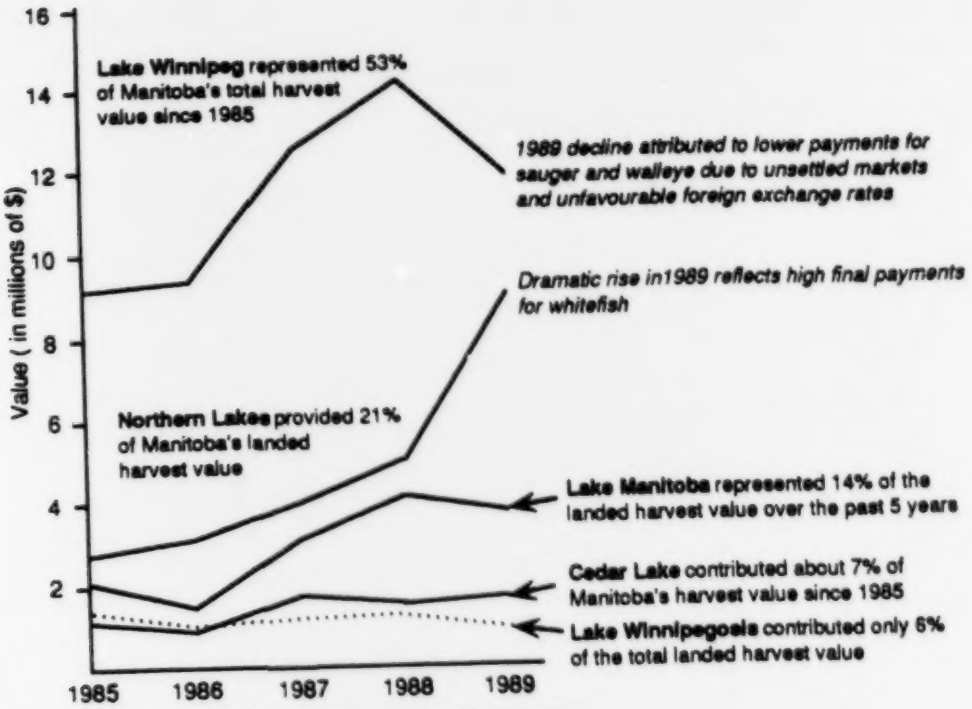

MANITOBA'S TOTAL LANDED VALUE



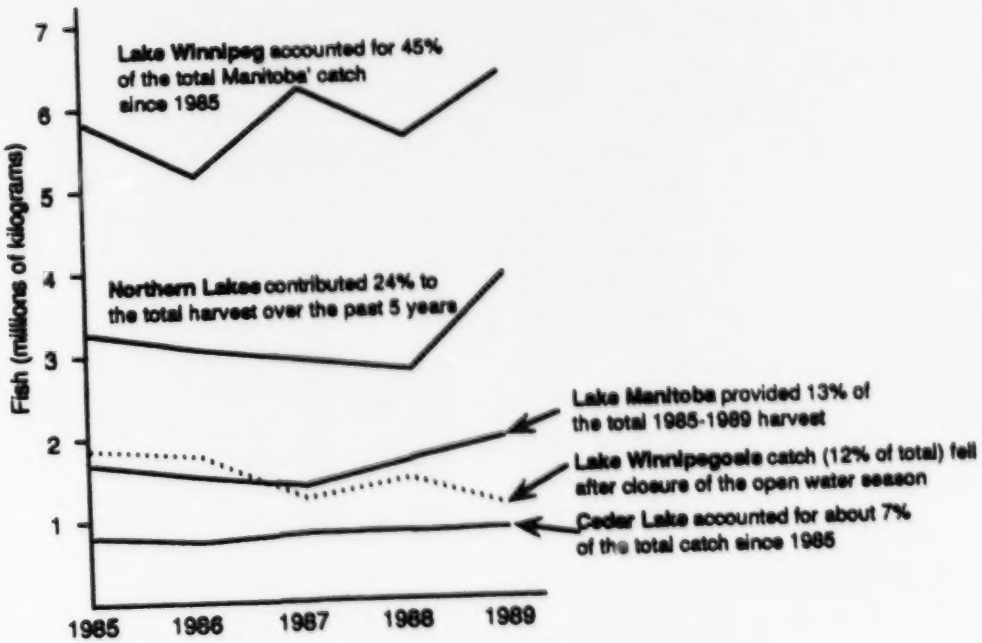

MANITOBA'S COMMERCIAL FISHING EMPLOYMENT




*1989 employment figures not available at time of printing


16
14
12
10
8
6
4
2
Value ( in millions of $)
Lake Winnipeg represented 53% of Manitoba's total harvest value since 1985
1989 decline attributed to lower payments for sauger and walleye due to unsettled markets and unfavourable foreign exchange rates
Dramatic rise in1989 reflects high final payments for whitefish
Northern Lakes provided 21% of Manitoba's landed harvest value
Lake Manitoba represented 14% of the landed harvest value over the past 5 years
Cedar Lake contributed about 7% of Manitoba's harvest value since 1985
Lake Winnipegosis contributed only 6% of the total landed harvest value
1985
1986
1987
1988
1989

**Landed Value of Fish Harvested from Major Lakes**


7
6
5
4
3
2
1
Fish (millions of kilograms)
Lake Winnipeg accounted for 45% of the total Manitoba' catch since 1985
Northern Lakes contributed 24% to the total harvest over the past 5 years
Lake Manitoba provided 13% of the total 1985-1989 harvest
Lake Winnipegosis catch (12% of total) fell after closure of the open water season
Cedar Lake accounted for about 7% of the total catch since 1985
1985
1986
1987
1988
1989

**Amount of fish Harvested from Major Lakes**

# ISSUES AND ACTIONS

## I. Fishing Incomes

There is a tendency of the commercial fishing industry to expand beyond the capacity of the resource to support it. Uncontrolled expansion can deplete fish populations and thus erode fishermen's incomes.

In their efforts to sustain reasonable levels of income, fishermen continue to seek higher quotas or additional subsidies. But such remedies do not work well in an industry that depends on a natural resource so heavily influenced by economic and market constraints. Other solutions must be considered; among them:

- adjustments of licencing systems
- adjustments in freight subsidies
- improved coordination between harvests and markets
- more secure forms of tenure and ownership rights that recognize performance standards of fishermen, the value of short-term allocations, and transfer of tenure rights between fishermen.

It is especially important that Manitoba's major fisheries - Lake Manitoba, Lake Winnipeg, Lake Winnipegosis, and Cedar Lake - be managed as efficiently as possible to encourage fishermen to reinvest in equipment and other aspects of their operation.

In communities that are remote, that have high unemployment, or that depend heavily on fishing for survival, the province must emphasize social opportunities as well as seek to improve economic performance of the fishery.

**ISSUE**

*The Lake Winnipegosis fishery has been in decline for some years. New programs were needed to improve the lake's commercial fishing industry.*

**ACTION: Rehabilitation of Lake Winnipegosis Fishery.** The open water season was closed in 1986, 1987 and 1988 to allow walleye stocks to rebuild to a point where they could support increased harvest levels in coming years. This decision was made to stem the economic and biological declines the fishery had suffered over the past 20 years. The closure was accompanied by other actions taken to improve the fishery and help fishermen:

- An employment program administered by the Lake Winnipegosis Employment Opportunities Liaison Committee to provide income for fishermen during the open water season.

**ISSUE continued**

*The Lake Winnipegosis fishery has been in decline for some years. New programs were needed to improve the lake's commercial fishing industry.*

- A fishery rehabilitation/management program that included a five-year intensive walleye stocking program.

- Purchase of fishermen's quotas and licences at fair market value through a buy-back program designed to reduce fishing pressure, improve walleye stocks, and provide greater economic returns to remaining fishermen. The province has set an objective of purchasing 15 quotas from fishermen in 1989.

**ISSUE**

*Fisheries Branch recognized the need to improve the economic performance of the Lake Winnipeg Fishery by refurbishing the existing quota system.*

**ACTION: Transferable Individual Quotas introduced on Lake Winnipeg.** The Quota Entitlement system replaced the old Point System of licencing in the spring of 1986. The new system of licensing offers a fairer way of allocating and transferring quotas. The quota entitlement gives certain additional rights to fishermen beyond their individual quota and allows fishermen to transfer quotas according to their own wishes. Benefits of the new system are:

- Each fisherman owns his quota rights

- Quota rights may be sold or transferred to any qualified person

- Retiring fishermen should find it easier to recover their investment in fishing equipment

- Fishermen will be better able to manage financial aspects of their operation because the system makes it easier to match fishing effort with quotas

Quota Entitlement was introduced after extensive consultation with fishermen and the Lake Winnipeg Fisheries Management Advisory Board. Some highlights of the system so far are:

- Fisheries Branch approved 494 of 666 transfer applications (172 were withdrawn or rejected) from 1986 to 1988

- The number of quota entitlements a person could hold was raised from 3 to 4 (and in some cases to 6) to increase individual incomes while maintaining the overall lake quota.

**ISSUE continued**

*Fisheries Branch recognized the need to improve the economic performance of the Lake Winnipeg Fishery by refurbishing the existing quota system.*

- Some Licensing Areas were combined, giving fishermen more opportunity to transfer quotas within their expanded area.

- With Entitlement in place, the number of fishermen has declined from 754 to 724, while the average quotas per fisherman increased.

**ISSUE**

*Measures to reduce overharvest and increase economic performance on Lake Manitoba have been needed for some time.*

**ACTION: Licence Limits and Licensing Systems for Lake Manitoba.** Fisheries Branch, in consultation with the Commercial Fishermen's Association, decided to freeze the number of commercial fishing licences for the 1986-87 season at the 1985 level of 650. The decision was made in response to fishermen's concerns about the economic effects of over-harvest. (From 1982 to 1986, the number of operators had increased from 400 to 650.)

Fisheries Branch and the Lake Manitoba Commercial Fishermen's Association also developed a new system of allocating winter licences after the licence limit had been imposed in 1986. The goal of the new system is to reduce the number of fishermen to 400 using two classes of licences:

- **Transferable Licences**: to take over a licence, a person must purchase the operator's equipment and have experience fishing on the lake.

- **Non-transferable Licences** are licences that become invalid when the operator leaves the fishery. This results in a gradual reduction in the number of active operators over time, which in turn helps reduce fishing pressure.

**ISSUE**

*Lake St. Martin was one of the last of the significant commercial fisheries to be operated on an "open access" basis, and so has not adequately served the employment and economic needs of the area.*

**ACTION: Lake St. Martin Licence Limitation.** To better serve the employment and economic needs of the Lake St. Martin area, Fisheries Branch and Pineimuta Fisheries Inc. are developing a management plan for the fishery. As a first step, they have set an upper licence limit at 126 fishermen for the 1987-88 winter season. With this limit in place, a controlled-entry licensing system is being developed in consultation with fishermen's representatives.

**ISSUE**

*Need for a revised freight subsidy schedule for commercial fishermen.*

**Fishermen's Freight Assistance Program (NFFA).** Since 1984, NFFA has made payments averaging $358,000 a year to cover fish transportation costs of 735 commercial fishermen. In 1985 the maximum freight subsidy a fisherman could receive was raised to 35¢ (from 22¢) per kilogram. Commercial fishermen pay the first 11¢ per kilogram and any amount over 46¢; the government pays the 35¢ difference.

**ISSUE**

*Negotiation of settlement claims to commercial fishermen affected by hydroelectric development.*

**ACTION: Article 19.4 of the Northern Flood Agreement.** Fisheries Branch, in cooperation with Manitoba Northern Affairs, Northern Flood Committee, and Manitoba Hydro worked with local communities to negotiate fishing settlement claims under Article 19.4 of the Northern Flood Agreement, for damages associated with hydroelectric development:

- **Norway House**: of the $2.28 million settlement received, $1.472 million covered damage to fishing prior to 1987;the remaining $808,000 of will be spent over a three-year period to maintain and develop the Norway House fishery, and to encourage fisherman to continue fishing.

- **Nelson House** fishermen received $620,000 for pre-1987 damage to their fishery, plus $342,000 to help them re-establish commercial fishing at a level comparable to what existed before hydroelectric development.

- **Split Lake** fishermen settled for $456,900, of which $355,000 compensated for damages to their fishery before 1987. The remaining $101,900 will be used in a one-year program to develop and maintain the fishery.

Fisheries Branch will work with each of these communities to develop programs and evaluate and monitor their effectiveness.

## II. New Fisheries and Income Opportunities

**ISSUE**

*Fisheries Branch has been looking at innovative ways to protect fish in heavily used commercial fisheries while creating reasonable income opportunities for fishermen.*

**ACTION: Experimental Fisheries**

*1. Lake Winnipegosis Experimental 3-inch Mesh Net Fishery.* The purpose of this 3-inch mesh, mid-winter fishery is to generate new income opportunities from a highly valued but under harvested species. Lake Winnipegosis has traditionally been a 4-inch mesh mullet/pike fishery in winter. The 3-inch net program will allow fishermen to harvest abundant perch populations with minimum damage to valuable walleye stocks. To further protect walleye, fishermen were restricted to harvesting only 2,000 pounds of walleye, with fishing restricted to areas that avoided known walleye concentrations. Under this program, about 100 fishermen harvested 43,092 kilograms of perch and earned an extra $125,000 for the 1988-89 winter fishery.

*2. Lake Manitoba 3-inch Mesh Net Fishery.* The goal of the Lake Manitoba 3-inch net fishery was to improve fishermen's incomes through increased harvest of perch and sauger, while limiting impacts on walleye. This winter-only fishery has operated successfully since 1985, generating annual revenues for fishermen ranging from $125,000 (1985) to $2,000,000 (1989). The number of fishermen participating, and the number of perch caught, has increased each succeeding year of the program without jeopardizing walleye stocks.

## III. Commercial Fishing and Sport Angling-Sharing the Resource

**ISSUE**

*Commercial fishermen, camp/lodge operators, and anglers seeking "quality" recreation increasingly vie for a larger piece of the fishing pie. Some people contend that commercial fishing operations or use of a fishery resource by more than one operator eliminates the possibility of high quality angling. This belief-often unwarranted-tends to discourage multiple use and may result in under-harvest of fishery resources.*

**ACTION: Sharing Fishery Resources to Benefit the User**

*1. Cedar Lake-Cross Bay Experimental Whitefish Fishery.* In 1988, a Cross Bay Fisheries Management Committee representing the interests of commercial fishermen, lodge operators, cottage owners, and the local game and fish association, set up a commercial winter fishery designed to harvest whitefish without taking significant numbers of game species such as walleye and pike.

Six fishermen from Grand Rapids and six from Easterville participated in the experimental fishery in 1989, the first commercial operation on Cross Bay in over 25 years. Altogether, the fishermen harvested 39,759 kilograms of fish (80% whitefish) with a landed value of $74,865. Sixty-two percent of the whitefish were premium quality jumbos. Of other species in the catch, 12% were tullibee, with pike contributing only 6%.

*2. Paint Lake Winter Whitefish Fishery.* This whitefish fishery was the first commercial operation at Paint Lake (near Thompson) since 1978. The lake is popular with anglers and in places is lined with cottages.

One commercial operator fished for five weeks in winter, 1989, and caught 12,062 kilograms of fish worth $20,000. Whitefish accounted for 82% of the catch, with tullibee and pike contributing 12% and 7%, respectively.

## IV. Declining Fish Harvest

**ISSUE**

*Dauphin Lake's walleye population, and the quality of walleye angling and commercial harvest have declined dramatically over the past 20 years. Land drainage in Dauphin Lake watershed has degraded fish habitat and had a significant impact on the fishery. Populations already low because of habitat degradation have been further reduced through over-harvest.*

**ACTION: Dauphin Lake Commercial Rehabilitation.** Conservation measures are essential to improve this fishery by giving walleye a chance to mature and spawn. In winter 1987-88, commercial fishermen delayed their opening date by two weeks to relieve pressure on fish stocks. The delay was unsuccessful and failed to reduce the walleye harvest. To ensure a lower harvest of walleye, each commercial fisherman agreed in 1988-89 to a 500 pound quota on walleye each year for the next two years. Walleye harvest last winter was reduced by 85% to 12,000 pounds. Pike harvest was increased from 0.25 pound per acre to over 1.5 pounds per acre by extending the winter season and by allowing fishermen to use trap nets to remove pike.

## V. Commercial Fisheries Strategy

**ISSUE**

*Fisheries Branch recognizes the need to develop a management strategy for Manitoba's commercial fishery as a whole, based on concepts and direction outlined in the Provincial Fisheries Strategy, and to keep the public informed about developments that affect the commercial fishing industry.*

**ACTION: Management Strategy and Public Information Programs.**

*1. Management Strategy.* A management strategy was completed in 1985-86 and provides a consistent, coordinated approach to commercial fisheries management throughout the province. The strategy will be used to guide management activities and decisions and provide a framework for the development of management plans for specific lakes or fisheries.

*2. Public Information.* Fisheries Branch has published and distributed several newsletters about Lake Winnipegosis, Lake Winnipeg, and Lake Manitoba fisheries to inform commercial fishermen about fishing programs and to encourage them to become more involved in fishery management. The Branch will also continue in its consultations with Commercial Fishermen's Advisory Boards and Associations. These organizations provide a means for commercial fishermen to contribute to the management of their fisheries.

## Challenges for the 1990's

Commercial fishing objectives have been developed from a Provincial perspective and address a broad spectrum of diverse fisheries.

At one end of the spectrum are Manitoba's major lakes (Winnipeg, Winnipegosis, Manitoba, Cedar) and the various northern fisheries managed under single or dual operators. These fisheries account for 75% of commercial production and are the foundation of the industry. Should production from the major lakes decline, commercial fishing in the Province as a whole would be jeopardized. It is crucial, then, that these fisheries be managed in a way that keeps production flowing even when market prices decline. This means that the resource must be sustained and operators provided with the economic incentives and opportunities that will allow them to continue fishing.

Generally, Manitoba's major fisheries must be managed to sustain their economic viability. Management goals applicable to this overriding objective are:

- Measure economic performance
- Establish legally binding access rights
- Develop performance standards
- Set maximum limits for participation
- Remove or reduce incentives to overcapitalize
- Review and improve commercial harvest regulations
- Coordinate market demand and supply, where possible
- Develop mechanisms for collecting resource rent

At the other end of the spectrum are the smaller fisheries that received a major portion of the provincial subsidy in the past. These include Saskatchewan River, Moose Lakes, Pukatawagan, Island Lake, Gods Lake, Brochet, Southern Indian Lake, Nelson House, and other communities. Commercial fishing plays an important social and cultural role in these communities, most of which are remote, have high unemployment, and lack diversified resource bases.

Management goals for these fisheries emphasize social opportunities while trying to maintain or improve economic performance; they are:

- Work with the communities to identify income and employment objectives for their commercial fishery
- Identify organizational constraints to achieving income and employment objectives
- Develop and implement performance standards
- Evaluate the ability of current subsidy programs to achieve community objectives
- Quantify the costs of meeting social/cultural objectives and maintaining social opportunities

Challenges for Manitoba's major fisheries are highlighted below:

**Lake Manitoba**

- Fisheries Branch will continue to work with commercial and sport fishermen in managing resource use
- Establish a realistic, sustainable quota for the 1990-91 season.
- Institute a stock indexing program to provide better information on fish stocks by spring, 1990.
- Work with the Manitoba Wildlife Federation to collect more information on the sport fishery (number of anglers; size of harvest; species taken)
- Develop a comprehensive management plan for Lake Manitoba by the end of 1991. This plan will integrate management of all fish stocks from both sport and commercial perspectives.

**Lake Winnipeg**

- Continue working with the Lake Winnipeg Fisheries Management Advisory Board to manage the Quota Entitlement system so that fishermen can improve their income opportunities.
- Evaluate the effectiveness of the Quota Entitlement system and recommend changes to improve its performance.
- Work with sport and commercial fishermen to define fishing rights on Lake Winnipeg. Fisheries Branch recognizes that commercial and sport fishing industries each have a legitimate interest in the Lake Winnipeg fishery. Once fishing rights have been clearly and publicly defined, fair and acceptable adjustments can be made that will benefit both groups.

**Lake Winnipegosis**

- Work to establish walleye production on a sustainable basis.
- Implement a Quota Entitlement system for the open water fishery.
- Establish a sustainable walleye quota and a quota entitlement program for the winter fishery. Maintain the successful perch fishery, which promises to provide $1 million of income to commercial fishermen.

**Lake Dauphin**

- Continue management programs to increase sustainable production of walleye.
- Consult with commercial fishermen about setting up a quota entitlement system for Lake Dauphin.
- Develop a fishery allocation agreement that will clarify the fishing rights of the sport and commercial fishing interests.

**Lake St. Martin**

- Continue working with Pineimuta Fisheries Inc. to develop a comprehensive management plan.

- Develop a controlled-entry licensing system in consultation with fishermen's representatives.

**Saskatchewan River, Moose Lakes, Summerberry, and Cedar Lake Fisheries**

- Work with commercial fishermen to identify problems and issues that have resulted in reduced harvest. Only when the nature of the problem is fully understood can measures be taken to correct the problem.

**Single or Dual Operator Northern Lakes**

- Work with operators to develop 5-year management plans or agreements that define the rights and obligations of commercial fishermen using specific fisheries. The objective is to increase economic benefits to operators while reducing conflicts with other resource users.

- Encourage the transfer of access rights where it will clearly benefit commercial fishermen and the fishery as a whole.

**Other Lakes**

There are a number of ways other fisheries in Manitoba can be improved economically. Some can be improved by adjusting licences or allocation programs; others may respond favorably to changes in the type of equipment and gear used:

- on small, remote and otherwise "non-viable" fisheries, the Branch will legalize 3-3/4" mesh nets on an experimental basis to increase walleye harvest.

- "Pulse-type" fishing (intensive fishing carried out over a short period of time) will be adopted on selected lakes

- the Branch will authorize experiments with trap-net fishing for walleye

- individual transferable quotas will be established wherever possible

- Fisheries Branch will continue to inform commercial fishermen about new or changing programs and opportunities that affect their operations.

# 5. DOMESTIC FISHING

## Introduction and Objectives

As in the past, fishing continues to provide an important source of food for Manitobans living in remote areas. Indeed, the right to fish for domestic use has traditionally been accorded to Treaty Indians through various treaties; today that right is absolutely protected under the Canadian Constitution. Maintaining domestic fisheries, then, is a matter of high priority at the provincial level because it directly affects the well-being of remote communities.

*Therefore, a major objective of fisheries management is to ensure there are enough fish available to meet the domestic needs of Treaty Indians.*

## Status and Trends

The extent of domestic use is poorly known because harvest levels are so difficult to estimate. What survey information does exist shows that demand for fish varies widely among native communities. Best estimate of demand comes from a 1985 Domestic Harvesting Survey by the Treaty and Aboriginal Rights Research Centre of Manitoba (TARR). This study showed that 0.9 million kilograms of fish are needed to meet Treaty Indian demands each year. Although no similar estimate of domestic harvest exists for non-treaty fishermen, their requirements are known to be substantially less than 0.9 million kilograms.

Future trends in domestic fishing are difficult to forecast because the history of resource use is poorly known. Nevertheless, the Branch recognizes that what happens in the future will depend on changes in local populations and economies, on cultural initiatives taken by communities, and on specific administrative and management activities undertaken to document and control harvest levels so that a productive domestic fishery can be maintained.

## Issues

The main issues of domestic fishing are:

- **Supply**: to ensure there are enough fish to support domestic fishing (for food) by Treaty Indians.
- **Allocation**: to develop a fair and appropriate process of allocating fish for domestic harvest.
- **Research**: to provide more precise and efficient ways to estimate demand for domestic fishing.
- **Communication**: to find ways to resolve or avoid perceived conflicts of resource allocation between domestic fishermen and other resource users.
- **Education**: to improve the public's perception and understanding of domestic fishing as a right of Manitoba's native people.

## Action Taken

In 1985, Fisheries Branch developed and approved a Policy Directive that clarified the right of Treaty Indians to fish for food in a manner that protects fishery resources and reduces social conflicts. A Procedural Directive accompanying the Policy outlines the conditions under which fishing is permitted in different areas of the province; the procedures specify:

- rules for transporting fish
- the type of gear to be used
- the amount and species of fish that can be caught
- waters that are closed to domestic fishing
- a need to obtain annual harvest summaries on request

This Procedural Directive also encourages consultation between the Branch and domestic fishermen and their representatives. In implementing this policy, Fisheries Branch worked with native groups and individuals to clarify how the policy should be applied and interpreted within the framework of existing Fisheries regulations. In a sense, these new policies and procedures can be regarded as cooperative agreements rather than as directives imposed from above.

In addition to the foregoing policy initiatives, the Branch in 1986 rescinded a regulation requiring Treaty Indians to purchase a Sport Fishing Licence for angling.

## Challenges for the 1990's

In the 1990's, Fisheries Branch looks forward to a growing dialogue and understanding with Treaty Indians both at provincial and local levels. For one, the Branch would like to see Band Councils play an active role in administering domestic fishing by Treaty Indians. At the same time, the Bands as well as government must develop better ways to estimate harvest so that the domestic fisheries can be managed more effectively and efficiently.

More emphasis will be given to allocating fishery resources for domestic harvest such that conflicts among different resource users can be anticipated and resolved before they become major issues. It may be necessary to set domestic harvest levels for selected species in areas where conflicts over resource use are most likely to arise. Fisheries Branch also realizes that greater effort will have to be made to keep the public better informed about domestic fishing and how it relates to sport and commercial fisheries.

# 6. FISH FARMING AND BAIT FISHING

## Fish Farming

### Introduction

Fish farming in Manitoba is largely a cottage industry operated by about 300 people who grow rainbow trout-and sometimes other kinds of trout-for profit or for their own use. Most fish farming is done from farm dugouts and small ponds, with the majority of operations located in the pothole country of southwestern Manitoba. A few operations are run commercially.

### Objectives

*To make fish farming commercially attractive, with participants earning a reasonable return on their investment*

*To promote the recreational value of aquaculture to hobby farmers.*

### Status and Trends

As noted above, fish farming is mainly a recreational, "hobby" industry. Commercial operators include:

- Elders Grain Ltd. of Winnipeg raises rainbow trout and arctic char in converted grain silos for sale to retail markets in Winnipeg.
- G.I. Trout Farms raises trout fingerlings and sells them to Manitoba fish farmers.
- Several trout farmers who operate out of Grand Rapids and Interlake areas raise fish for market.

Cage culture experiments in northern Manitoba have met with limited success. To date, cage culturing has not been adopted on an operational basis anywhere in the province.

### Issues and Actions

Fish farming is a growing industry in Europe and on the east and west coasts of North America. Some proponents feel Manitoba also has the potential to support a profitable aquaculture industry, although the technology needed to service a major industry here does not yet exist. And it may be that environmental and resource limitations in Manitoba cannot sustain the type of large-scale operations that thrive in maritime regions.

### Challenges for the 1990's

- Monitor and evaluate the industry to define its present status and potential for future development.
- Distribute information on new technology as it becomes available.

## Bait fishing

### Introduction
Manitoba's live bait industry expanded somewhat in 1989, but to what extent has not yet been determined. The frozen bait industry is stable, but still relatively small.

### Objectives
*To manage bait fishing as a commercially viable industry in which participants are able to earn a reasonable return on investment*

*To reduce the risk of introducing fish species into watersheds outside their normal distribution.*

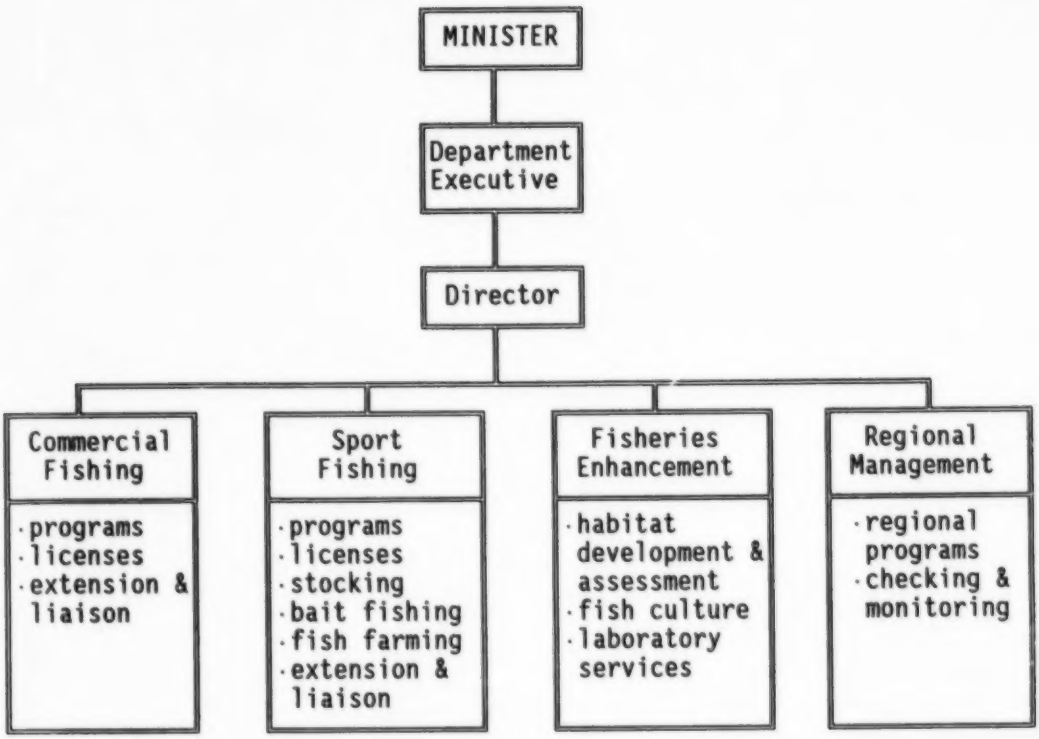
### Status and Trends
Of 48 active fishermen, 12 harvest live bait fish, while the remaining 36 market frozen or salted fish. Live bait fishing has grown in popularity since the moratorium against it was lifted in 1988. The moratorium was put in place in 1983 until a decision could be made whether or not to ban the use of live bait fish in Manitoba.

Current revenue from frozen bait fishing is $500,000, plus an additional $5,000 in licence sales. There are 30 dealers in Manitoba who sell live bait. Gross revenues from these sales is approximately $100,000

### Issues
The live bait fishery is growing and may become much larger, as is the case in Minnesota and Ontario, or it could stabilize at current levels. There is some concern that live bait fishing could cause species such as carp and bullheads to spread into other waters.

### Challenges for the 1990's

- There is now no limit to the number of commercial bait fishermen who can collect live bait. No new moratorium on live bait fishing is anticipated for the future.
- Fisheries Branch will continue to educate live bait fishermen and dealers who in turn will educate anglers about the dangers of fish populations spreading into waters where they could degrade valuable sport or commercial fisheries.
- Licence fees will increase in 1990 to prevent fishermen from monopolizing bait fisheries, thus allowing more operators to share in the industry.

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**Looking ahead:**
**Branch re-organization**

Fisheries Branch initiated some organizational adjustments in 1989. There will be a new fisheries management section at the regional level. The fisheries managers for the Branch's six regions will report to the head of this section rather than to the Director. Also, Fisheries Enhancement will be restructured to deal mainly with habitat matters and the the Sport and Commercial Fishing sections will be combined. Why all the changes? We feel the reorganization will make more efficient use of our staff and put more emphasis on regional management concerns.